

REMARKS

The Examiner objected to the drawings because Figures 1 and 2 should be labeled as prior art. Applicant has submitted herewith a new set of formal drawings that include the requested labeling.

The Examiner rejected Claim 7 under 35 U.S.C. 112, second paragraph, because of various antecedent basis problems. Applicant submits that the above amendments cure any such defects.

The Examiner rejected Claims 1 and 5 under 35 U.S.C. 102(e) as being anticipated by Rothamel (US 6,639,206). Applicant traverses this rejection. The Examiner has the burden of showing by reference to the cited art each claim limitation in the reference. Anticipation under 35 U.S.C. 102 requires that each element of the claim in issue be found either expressly or inherently in a single prior art reference. *In re King*, 231 USPQ 136, 138 (Fed. Cir. 1986); *Kalman v. Kimberly-Clark Corp.*, 218 USPQ 781, 789 (Fed. Cir. 1983). The mere fact that a certain thing may result from a given set of circumstances is not sufficient to sustain a rejection for anticipation. *Ex parte Skinner*, 2 USPQ2d 1788, 1789 (BdPatApp&Int 1986). "When the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference" (*In re Rijckaert*, 28 USPQ2d, 1955, 1957).

With respect to Claim 1, the Examiner looks to Figure 1 of Rothamel. In particular, the Examiner assigns element 7 as the drum and element 2 as the reflective stripes. The Examiner goes on to state that a first light source 1 illuminates the reflectors at an opaque angle and that a first photodetector 3 is positioned to receive the reflected light from the reflectors during rotation of the drum.

First, it should be noted that Claim 1 requires that the reflective stripes form an image of the first light source of the photodetector. The Examiner has not pointed to any such teaching in Rothamel. The embodiment discussed in Figure 1 of Rothamel utilizes planar reflectors, and hence, could not provide the imaging property in question. Furthermore, Rothamel teaches a system having lenses that provide the imaging of the light source onto the photodetector. The lenses are part of imaging assembly 20, but not labeled. The

embodiments shown in Figures 6 and 7 of Rothamel utilize curved reflectors; however, the imaging of the light source is, once again, accomplished by the lenses shown that are part of assembly 20. Accordingly, Applicant submits that Rothamel does not anticipate Claim 1 or Claim 5, which depend therefrom.

The Examiner rejected Claim 2 under 35 U.S.C. 103(a) as being unpatentable over Rothamel in view of Chen (US 6,817,528). Applicant traverses this rejection and repeats the arguments made above with respect to the missing teaching in Rothamel. Chen does not provide the missing teaching.

In making this rejection, the Examiner admits that Rothamel does not teach that the light source emits a collimated beam of light. The Examiner looks to Figure 1 of Chen as teaching two collimating lenses (212 and 214) converting light emitted from two light sources (202 and 204) into two collimated beams of light (col. 6, lines 36-38). According to the Examiner, one would be motivated to collimate the light rays in the light source of Rothamel for the purpose of maintaining the alignment of the active lighting area with the area of the photodetector during the drum rotation.

The scheme taught in Chen does not image the light sources onto the photodetector. The scheme taught in Chen mixes the light pattern from two different tracks to produce Moire fringes that provide information on the degree of rotation. The Examiner has not pointed to any teaching that such a collimator provides any alignment benefit in the scheme shown in Rothamel. Accordingly, Applicant submits that the combined teachings do not satisfy the limitations of the claim, and, in addition, the motivation for combining the teachings cited by the Examiner is defective. Hence, Applicant submits that the Examiner has not made a *prima facie* case for obviousness with respect to Claim 2.

The Examiner rejected Claims 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Rothamel in view of Suganuma (US 6,448,996). Applicant traverses this rejection and repeats the arguments made above with respect to the missing teachings in Rothamel. Suganuma does not provide the missing teachings, and hence, the Examiner has not made a *prima facie* case for obviousness with respect to Claims 3 and 4.

The Examiner rejected Claim 6 under 35 U.S.C. 103(a) as being unpatentable over Rothamel. Applicant traverses this rejection and repeats the arguments made above with respect to the missing teachings in Rothamel. Hence, the Examiner has not made a *prima facie* case for obviousness with respect to Claim 6.

The Examiner rejected Claim 7 under 35 U.S.C. 103(a) as being unpatentable over Rothamel in view of Karim-Panahi (US 5,438,882). Applicant traverses this rejection and repeats the arguments made above with respect to the missing teachings in Rothamel. Karim-Panahi does not provide the missing teachings. Hence, the Examiner has failed to make a *prima facie* case for obviousness with respect to Claim 7.

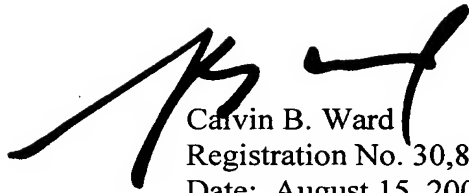
The Examiner rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Rothamel in view of Karim-Panahi and Cohen (US 4,124,839). Applicant traverses this rejection.

Regarding Claim 8, the Examiner admits that Rothamel and Karim-Panahido not teach a drum comprising two tracks where the widths of the stripes of the first track are different from the widths of the stripes of the second track. The Examiner looks to Cohen for the teaching of multiple tracks with different width reflective strips. The Examiner states that one would be motivated to use the tracks of Cohen in a system based on the combined teachings of Rothamel and Karim-Panahi to provide additional encoding data. Applicant must disagree.

In making this rejection, the Examiner looks to tracks 4 and 4' in Karim-Panahi as the first and second tracks. Applicant must point out that the scheme taught in Karim-Panahi is designed to measure the torque on a shaft by measuring the phase shift of the signals produced by the two tracks. As such, the tracks must have the same widths so that they produce signals of the same frequency. Hence, utilizing the different spacings suggested by Cohen would lead to an inoperative device. Accordingly, Applicant submits that Examiner has not made a *prima facie* case for obviousness with respect to Claim 8.

I hereby certify that this paper is being sent first class mail.

Respectfully Submitted,



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